

In the Claims:

128. (Previously Presented) A power supply subsystem for providing electrical power to a local area network node over communication cabling, the power supply subsystem comprising:

a power management and control unit;

programmable current limiting circuitry responsive to said power management and control unit to provide a programmable current limited output;

voltage measurement means; and

at least one of a combiner and a power supply interface operative to couple said programmable current limited output to the communication cabling;

said power management and control unit being further operative to:

measure, utilizing said voltage measuring means at a plurality of pre-determined intervals, a voltage developed in accordance with said coupled programmable current limited output; and

determine, as a consequence of said measured voltage whether characteristics of the node allow it to receive power over the communication cabling.

129. (Previously Presented) A power supply subsystem according to claim 128, wherein said voltage measuring means is operative to measure the voltage at the output of said programmable current limiting circuitry.

130. (Previously Presented) A power supply subsystem according to claim 128, wherein said voltage measuring means is operative to measure the voltage supplied to the communication cabling.

131. (Previously Presented) A power supply subsystem according to claim 128, wherein said power management and control unit is further operable, prior to said coupling said programmable current limited output to the communication cabling, to measure, utilizing said

voltage measuring means, a pre-existing voltage present across a line associated with the communication cabling.

132. (Previously Presented) A power supply subsystem according to claim 131, wherein in the event that said measured pre-existing voltage exceeds a predetermined threshold, said power management and control unit is further operable to classify the line as externally voltage fed.

133. (Previously Presented) A power supply subsystem according to claim 132, wherein said power management and control unit is operative to couple said programmable current limited output to the communication cabling only in the event that the line is not classified as externally voltage fed.

134. (Previously Presented) A power supply subsystem according to claim 128, wherein said power management and control unit further determines the status of the local area network node for which power is to be provided as a consequence of said measured voltage, said status comprising one of a short circuit condition, a no load condition, a network interface card load condition and a power over LAN load condition.

135. (Previously Presented) A power supply subsystem according to claim 134, wherein said power management and control unit is further operable to report said status to a network workstation.

136. (Previously Presented) A method for supplying power to a local area network node over communication cabling, the method comprising:

- injecting current-limited current into communication cabling connected to the local area network node;

- measuring a voltage developed in accordance with said injected current limited current across said communication cabling at a plurality of pre-determined intervals; and

- determining, as a consequence of said measured voltage at said plurality of pre-

determined intervals whether characteristics of the local area network node allow it to receive power over the communication cabling.

137. (Previously Presented) A method according to claim 136, wherein said measuring is accomplished at the output of a current-limited supplying circuitry, said current-limited supplying circuitry supplying said injected current-limited current.

138. (Previously Presented) A method according to claim 136, wherein said measuring is accomplished across a line associated with the communication cabling.

139. (Previously Presented) A method according to claim 136, further comprising prior to said injecting, measuring a pre-existing voltage across a line associated with the communication cabling.

140. (Previously Presented) A method according to claim 139, further comprising:

in the event said measured pre-existing voltage exceeds a predetermined threshold,

classifying the line associated with the communication cabling as externally voltage fed.

141. (Previously Presented) A method according to claim 140, wherein said injecting is performed only in the event that said measured pre-existing voltage does not exceed said predetermined threshold.

142. (Previously Presented) A method according to claim 136, further comprising determining a status of the local area network node for which power is to be provided over the communication cabling, said status comprising one of a short circuit condition, a no load condition, a network interface card load condition and a power over LAN load condition.

143. (Previously Presented) A method according to claim 142, wherein said determining a status of the local area network node is a consequence of said measured voltage.

144. (Previously Presented) A method according to claim 142, further comprising reporting said determined status to a network workstation.

145. (Previously Presented) A local area network providing power over communication cabling comprising:

- a LAN switch;

- a plurality of local area network nodes;

- communication cabling enabling data communication between said LAN switch and said plurality of local area network nodes; and

- a power supply subsystem, said power supply subsystem comprising:

- a power management and control unit;

- programmable current limiting circuitry responsive to said power management and control unit to supply a programmable current limited output;

- voltage measurement means; and

- at least one of a combiner and a power supply interface operative to couple said programmable current limited output to said communication cabling,

- said power management and control unit being operative to:

- measure, utilizing said voltage measuring means at a plurality of pre-determined intervals, a voltage developed in accordance with said coupled programmable current limited output; and

- determine, as a consequence of said measured voltage whether characteristics of at least one of said plurality of local area network nodes allow it to receive power over said communication cabling.

146. (Previously Presented) A local area network according to claim 145, wherein said voltage measuring means is operative to measure the voltage at the output of said programmable current limiting circuitry.

147. (Previously Presented) A local area network according to claim 145, wherein said voltage measuring means is operative to measure the voltage supplied to said communication cabling.

148. (Previously Presented) A local area network according to claim 145, wherein said power management and control unit is further operable, prior to said coupling of said programmable current limited output to said communication cabling, to measure utilizing said voltage measuring means, a pre-existing voltage present across a line associated with said communication cabling.

149. (Previously Presented) A local area network according to claim 148, wherein in the event that said measured pre-existing voltage exceeds a predetermined threshold, said power management and control unit is further operable to classify said line as externally voltage fed.

150. (Previously Presented) A local area network according to claim 149, wherein said power management and control unit is operative to couple said programmable current limited output to said communication cabling only in the event that said line is not classified as externally voltage fed.

151. (Previously Presented) A local area network according to claim 145, wherein said power management and control unit further determines the status of said at least one of said plurality of local area network nodes for which power is to be provided, said status comprising one of a short circuit condition, a no load condition, a network interface card load condition and a power over LAN load condition.

152. (Previously Presented) A local area network according to claim 151, wherein said determined status is a consequence of said measured voltage.

153. (Previously Presented) A local area network according to claim 151, further comprising a network workstation, said power management and control unit reporting said status to said network workstation.

154. (Previously Presented) A local area network according to claim 145, wherein said power supply subsystem and said LAN switch are located in a hub.

155. (Previously Presented) A local area network according to claim 145, wherein said power supply subsystem is located between said LAN switch and said at least one of said plurality of local area network nodes.

156. (Previously Presented) A local area network according to claim 145, wherein said power supply subsystem is located between said LAN switch and said plurality of network nodes, said communication cabling connecting said LAN switch and said plurality of network nodes via said power supply subsystem.

157. (Previously Presented) A power supply subsystem for providing electrical power to a local area network node over communication cabling, the power supply subsystem comprising:

a power management and control unit;

programmable current limiting circuitry responsive to said power management and control unit to supply a programmable current limited output;

voltage measurement means;

at least one of a combiner and a power supply interface operative to couple said programmable current limiting output to the communication cabling;

said power management and control unit being operative to:

measure, utilizing said voltage measuring means at a

plurality of pre-determined intervals, a voltage developed in accordance with said coupled programmable current limited output, said voltage being measured across a line associated with the communication cabling;

determine, as a consequence of said measured voltage at said plurality of pre-determined intervals whether characteristics of the node allow it to receive power over the communication cabling; and

in the event that said characteristics of the node allow it to receive power over the communication cabling, provide said programmable current limited output via said at least one of a combiner and a power supply interface over the communication cabling to the node.

158. (New) A power supply subsystem for providing electrical power to a local area network node over communication cabling, the power supply subsystem comprising:

a power management and control unit;

a current limiting circuitry responsive to said power management and control unit to provide a current limited output;

a voltage measurement means; and

at least one of a combiner and a power supply interface operative to couple said current limited output to the communication cabling;

said power management and control unit being further operative to:

measure, utilizing said voltage measuring means at a plurality of pre-determined intervals, a voltage developed in accordance with said coupled current limited output; and

determine, as a consequence of said measured voltage, whether characteristics of the node allow it to receive power over the communication cabling.

159. (New) A power supply subsystem according to claim 158, wherein said current limiting circuitry is operative to provide said current limited output at a first limit level and a second limit level, said determining being at said first limit level, and wherein said power management and control unit is further operative in the event that said characteristics of the node allow it to receive power over the communication cabling to provide said current limited output at said second limit level from said current limiting circuitry via said at least one of a combiner and a power supply interface over the communication cabling to the node.